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Bald Mountain Douglas-Fir Bark Beetle Treatment

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CHAPTER 1, PURPOSE AND NEED FOR ACTION

BACKGROUND

The 2007 Castle Rock Fire burned approximately 48,000 acres of Sawtooth National Forest and Twin Falls District-BLM public lands including the southern and western edges of the Bald Mountain ski area. The wildfire didn't completely kill all the trees within its perimeter, but left hundreds of thousands of fire-weakened trees, mostly Douglas-fir, struggling to survive on the landscape. Many of these stressed trees have now become the perfect host for a variety of insects including the Douglas-fir bark beetle (DFB), which could soon kill them. The greater danger though, is that the exploding population of DFB's emerging from these now-dying trees will infest and overwhelm the natural defenses of otherwise healthy, green Douglas-fir outside the perimeter of the Castle Rock Fire, including Bald Mountain.

DFBs are found naturally in most Douglas-fir stands, but when populations are at low levels they typically kill only a few trees every year. However when the right environmental conditions exist, as are occurring now in the aftermath of the Castle Rock Fire, their populations can explode. DFBs tend to attack tree stands that are over 50% Douglas-fir, over 120 years old, and greater than 14 inches in diameter, a condition that exists over much of Bald Mountain's forested lands. DFBs typically lay one generation of eggs per year. They begin emerging for flight in late April to early June once daytime temperatures begin reaching 60 degrees F, searching for fresh trees to reproduce in. After finding a tree to infest, the female beetles burrow into the inner bark (phloem) constructing "galleries" to lay their eggs. Once hatched, beetle larvae feed perpendicular to the original parent gallery on the phloem. If enough larvae thrive within a tree, the inner bark becomes "girdled" preventing the flow of water up from the roots and nutrients down from the needles leading to the death of the tree. DFB outbreaks normally last from 3 to 6 years once established. DFB outbreaks fall back to endemic levels when environmental conditions no longer support mass reproduction or they have eliminated most host trees in an area.

PURPOSE AND NEED FOR ACTION

Post-Castle Rock Fire insect surveys conducted in the summer and fall of 2009 showed Douglas-fir beetle populations are robust west of the ski area as well as in the green tree stands between ski runs and burned areas along Guyer Ridge on the upper half of Warm Springs. The beetles have already infested a large portion of the trees over 20 inches diameter along Guyer Ridge. Many of these already-infested Douglas-fir will likely turn red during the summer of 2010. Douglas-fir stands located on Forest Service and BLM lands are in jeopardy of incurring high amounts of beetle induced mortality simply because of their susceptibility and proximity to exploding populations of beetles.

The purpose of this project is to protect large, green Douglas-fir in the forested viewshed west of Ketchum that among other environmental services, such as soil protection and wildlife habitat, also provide wind scour protection and delineate ski runs on Bald Mountain. Specifically, this project objective is to reduce additional DFB-induced post-fire mortality of at risk Douglas-fir stands and to limit high amounts of tree mortality in order to prevent a large build up of standing

dead trees that ultimately lead to a higher fire risk. The proposed action is to: 1) disperse the anti-aggregate pheromone Methylcyclohexenone (MCH) via aerial and ground applications that signal beetles this area is already occupied, and; 2) reduce and monitor DFB populations in currently infested areas within and adjacent to the Bald Mountain Ski Area boundary using baited traps. These actions would be carried out under the supervision of the Sawtooth National Forest with cooperation from BLM as appropriate.

DECISION TO BE MADE

The Shoshone Field Manager will:

- Select to implement the proposed action or the no action alternative.
- Determine whether the selected action will have significant effects and whether or not to prepare an environmental impact statement
- Determine whether the selected alternative is consistent with the current land use plan.

CONFORMANCE WITH APPLICABLE LAND USE PLAN(S)

The proposed action is in conformance with the Sun Valley Management Framework Plan (MFP, 1981) as amended by the Fire Management Direction Amendment (FMDA, 2008). The MFP recognizes the importance of forest resources within the Bald Mountain ski area and has designated these resources be managed for their recreational values.

Forest resource management activities recognized to meet recreational values included hazard reduction, disease and pest control, tree removal for approved construction projects, and salvage of dead and dying trees.

SCOPING, PUBLIC INVOLVEMENT, AND ISSUES

Information regarding this project was made available by the USFS, Ketchum Ranger District via press release; general mailings; public meetings; and personal contacts with local government officials, Native American Tribes, and adjacent landowners. Additionally, scoping notices were posted on the Forest Service and BLM web pages on December 4, 2009 and January 20, 2010, respectively. Comment letters were received from one agency, one organization, and nine individuals and are available for review in the project file at the Shoshone Field Office. Overall, there was general support for the proposal.

Key issues and responses are summarized below.

Meadows used as helispots for the 2009 Castle Rock Fire hillslope treatments (aerial mulching) adjacent to Warm Springs Road west of Ketchum were damaged by vehicle and foot traffic. Use different helispots.

The Forest Service has contacted Sun Valley Company and the City of Ketchum, and expects to gain permission to use the River Run and/or Greyhawk parking lots at the base of Bald Mountain as helicopter staging areas for the one day it is expected to take to complete each aerial application, up to two days total each year. The helispots used for the 2009 aerial mulching

project are not expected to be needed to support this project. The Greenhorn Guard Station and Bassett Gulch reclaimed mill site have been identified as back-up helicopter staging areas, if needed.

Can MCH-impregnated chips (flakes) be a dark color, rather than white, to blend in better with the surrounding environment?

MCH pheromone flakes are white so it can be determined if they are being distributed at the correct application rate. At the expected application rate of approximately 1 flake per square foot, it's not expected these 6mm X 6mm flakes will have a substantial impact on visual resources. Though not biodegradable, reports from managers of other MCH pheromone flakes dispersal projects are that the white color fades with age and flakes are not easily found on the ground (L. Lazarus, Forest Service Region 4 entomologist, personal communication).

Will application of MCH flakes create unintended consequences of driving beetles to untreated areas?

“Because beetles moving through a treated stand will spend more time searching for a host, they presumably will have a greater chance of dying as a result of longer exposure to natural enemies and other mortality factors. There is, however, no evidence that tree mortality in areas adjacent to those treated with MCH pheromone is any higher than it would be in the absence of MCH pheromone treatment. Consequently, landowners and managers do not need to fear that beetles will “move” from treated stands into neighboring ones” (Ross, Gibson, and Daterman, 2006).

Can the Forest Service ensure the 300-foot buffer zone is sufficient to protect open water from MCH in aerially distributed flakes?

The purpose of the 300-foot buffer is to keep MCH pheromone flakes from dropping directly out of the helicopter's dispenser, or easily washing downhill during overland water flow, into open water. Mathematical modeling shows lateral drift of flakes from a helicopter flying at 60 MPH on contoured flightlines (maintaining a relatively constant elevation above treatment areas, rather than flying up or down slope) in a 10 MPH wind could be up to 45 feet downwind. Once reaching the ground the small, thin, angular flakes would rapidly lodge among live ground vegetation or forest duff (Kenney, 2010). Contract specifications will call for aerial application of MCH pheromone flakes to cease when sustained winds are greater than 6 MPH and adversely affect dispersal of MCH pheromone flakes, which will be determined by the Contracting Officer's Representative (COR) using the National Weather Service's automated weather station at the top of Bald Mountain, and/or portable weather station(s) within the proposed treatment area. In addition, test runs using blank flakes will be done under actual field conditions to calibrate the helicopter's dispenser and verify where the helicopter should fly to maintain the 300 foot buffer from open water. Based on past Forest Service experience dispersing MCH pheromone flakes within a portion of the Domke Lake Fire Area on the Chelan Ranger District, Okanogan-Wenatchee National Forest in Washington during 2008 and 2009, and the modeling described above, the 300-foot buffer zone is expected to be sufficient to keep MCH pheromone flakes out of open water.

Is there potential for MCH to impact aquatic organisms in the Big Wood River, Warm Springs Creek, or any other surface water?

MCH pheromone is considered insoluble or at worst sparingly soluble in water. Based on toxicology tests, the vast majority of MCH pheromone introduced to water should remain unavailable to organisms in the water column. Instead, most MCH pheromone escaping from flakes would float to the surface and volatilize into air. MCH pheromone not volatilized would be photodegraded or metabolized by bacteria to some extent. Under very pessimistic scenarios, MCH pheromone concentration should not exceed about 1 part per billion, about 1/10,000 of the level shown to cause acute toxicity to rainbow trout and a macroinvertebrate taxon (Kenney, 2010). Therefore, it is reasonable to conclude application of MCH pheromone flakes is likely to have no perceptible effect on aquatic organisms in Warm Springs Creek, the Big Wood River, or Magic Reservoir.

Is there potential for MCH to affect threatened, endangered, or sensitive species?

The Bald Mountain Douglas-fir Bark Beetle Project Biological Assessment/Biological Evaluation (BA/BE) has determined there is “No Effect” to any listed threatened, endangered, or sensitive fish, wildlife or plant species in the proposed project area.

Can thinning and aggressive management of timber stands be used to improve the resiliency of surviving trees, while also improving glade skiing on Bald Mountain?

Yes, however it is excluded from this analysis as it will not meet the needs as it cannot be implemented quickly enough to protect large, green Douglas-fir trees from the next generation of Douglas-fir Bark Beetles emerging this coming spring and summer.

Will MCH pouches (bubble caps) be available to private landowners to protect their Douglas-fir trees?

The Forest Service’s Boise office of State & Private Forestry is currently working with Idaho Department of Lands staff to determine how to protect Douglas-fir trees on private lands in the vicinity of Bald Mountain. Local arborists and landscaping companies are potentially another source of advice, service, and products for protecting Douglas-fir trees on private lands.

Will baited traps be placed where they won’t lure beetles into healthy forested areas, especially near private lands?

Baited traps will be placed to lure beetles back into areas already burned by the Castle Rock Fire, or already heavily infested tree stands on the Warm Springs side of Bald Mountain near the top of Guyer Ridge.

CHAPTER 2, PROPOSED ACTION AND ALTERNATIVE(S)

PROPOSED ACTION

The Ketchum Ranger District and the Shoshone Field Office propose to reduce additional Douglas-fir bark beetle (DFB)-induced mortality of Douglas-fir on the Bald Mountain ski area and vicinity by treating vulnerable tree stands with the anti-aggregant pheromone methylcyclohexenone (MCH). The MCH would be primarily applied via helicopter in the form of laminated plastic flakes. Some MCH may also be applied by hand in the form of “bubble caps,” which are small plastic pouches affixed to individual trees. The project area includes Federal land (both Forest Service and BLM-managed) on and near the ski area (Figure 1 shows the original proposed application area, which included State and privately-owned land, but this analysis applies only to the Federal units).

Application methods- The MCH flakes (Figure 2, although the flakes shown in the photo are smaller than those proposed for this project: about 6 mm by 6 mm by 1 mm) are essentially plastic sandwiches with MCH in the center, volatilizing to the environment only along the outside edges of the flakes. The flakes are designed to dispense all of their MCH to the air within about 55 days. The flakes would be spread on the ground via helicopter on up to 2,000 acres of National Forest and BLM-managed Federal land.

The application helicopter would be equipped with a hopper-like dispenser for the flakes and would fly at about 60-70 miles per hour on contoured flightlines (i.e., maintaining a relatively constant elevation, as opposed to flying up or down the face of the hillslope) spaced up to about 100 feet apart. The helicopter would fly above the tree canopy level (roughly 50-100' above the ground) such that the flakes spread over a 16 to 50-foot swath on each side of the aircraft (Laura Lazarus, Forest Service Region 4 entomologist, personal communication). The proposed application density of about 0.85 flakes per square foot would result in approximately 150 grams of MCH (1.2 kg of flakes) per acre, at about 4.03 milligrams per flake and a total of up to 300,000 grams of MCH per treatment. The cooperators are planning to contract with a former Forest Service employee familiar with the aerial application of plastic pheromone flakes to train the helicopter contractor, and the contractor will practice application with blank flakes and ground spotters before attempting application with MCH-infused flakes.

Given the relatively short effective life of the flakes, we propose two treatments in 2010, the first in late April/early May and the second in late June/early July. The treatments could be conducted at all proposed sites once or twice annually for up to 5 years.

The bubble caps are plastic cards with an MCH-permeable section that allows dispersal of the pheromone over a period of about 55 days. Each bubble cap is stapled to trees or posts about 4-6 feet off the ground at a rate of about 30 per acre (Figure 3). Each bubble cap holds about 400 milligrams of MCH (so there would be about 12 grams of MCH distributed per acre) and would be applied with about the same timing as the MCH flakes.

Application areas Federal land for MCH flake application has varying priority and thus the likelihood of being treated is dependant on logistics and funding and will be re-determined annually. The application helicopter would take off and land and be loaded with MCH flakes in the River Run parking lot for the ski area. Live streams would be buffered from aerial treatment with a 300-foot (on each side) non-treatment zone, so the flight path center of each swath would be at least half the full swath width distance from the edge of the buffer. The potential application areas extending from about one mile upstream of the Alturas Gulch tributary of Warm Springs Creek downstream (mostly on the south side of the creek) to the confluence with the Big Wood River, then down the west side of the river to the southern end of the ski area, just short of the Clear Creek drainage. A BLM parcel south of Clear Creek may also be treated.

Treatment with bubble caps is not proposed in 2010, but may occur anywhere in the project area within the remainder of the 5-year life of the project, including within the riparian buffer strips that would not be treated with MCH flakes.

MCH effects Although aerial application of MCH flakes is similar in logistics and intent to insecticides, MCH is not toxic to DFBs, but is in fact produced by DFBs and is used as a cue by other DFBs to seek trees that are not already occupied.

Only a few studies of MCH toxicity on organisms have been performed and these are summarized in risk assessment contracted by the Forest Service (SERA 1998); these tests concentrated on establishing the acute LC₅₀ (i.e., the median amount or concentration of MCH that results in the death of 50% of the test subjects over a few days).

Design Critireia/ BMPs The guidelines below were developed to address environmental and public safety considerations, and also to comply with standards and guidelines in applicable land use plans and forest plans. They were modified from experience conducting treatments with pesticides.

1. Sites will be closed to public entry during MCH flake application or mechanical treatment.
2. Signs will be posted or other efforts made to notify the public that the MCH flakes have been applied
3. Sawtooth National Forest inspection personnel or the Contracting Officer's Representative (COR) will be on site during MCH flake application to monitor for drift, coverage, and compliance with label instructions. The Sawtooth NF personnel or COR will also make sure that all other mitigation measures are being followed.
4. MCH bubble caps may be applied to any trees, including those in close proximity to water bodies, as directed by Sawtooth NF inspecting personnel or CORs.
5. To minimize MCH flake drift, aerial application will only occur when wind is ≤ 6 mph, probably during early morning hours.
6. MCH flake application would be made no closer than 300 feet from the Big Wood River, Warm Springs Creek, Clear Creek, and Penny/Dollar Lake (although some drift into the buffer areas may occur).

7. Flake drift monitoring will be performed, on a sampling basis, during every application.
8. In compliance with SWRA Standard 11, do not authorize storage of fuels and other toxicants or refueling within Riparian Conservation Areas (RCA) unless there are no other alternatives. Storage of fuels and other toxicants or refueling sites within RCAs shall be approved by the responsible official and have an approved spill containment plan commensurate with the amount of fuel.
9. The Warm Springs and Cold Springs portions of the Bald Mountain Perimeter Trail #328 are closed from the end of ski season until July 1st annually to protect calving elk, so no impacts to recreational use are expected on those trail segments during this time period. If the Warm Springs-River Run Traverse Trail #330 and Bald Mountain Trail #201 are dry enough to be open to public use, they will need to be temporarily closed during helicopter flight periods. Temporary "Trail Closed" signs will be posted at the beginning of each open trail mentioned above on helicopter dispersal days. Depending on the flight path chosen by the pilot, temporary closures of the Wood River Trail (Bike Path), may need to be erected and staffed whenever the helicopter leaves or returns to the River Run parking lot and when the helicopter is dispersing MCH flakes within ¼ mile of the path. Road access to the River Run and Greyhawk parking lots will be restricted. Local police support for road closures may be required. Public lift operations are not expected during this period but lift maintenance or other work activities may take place. Sun Valley Company and third-party employees will need to temporarily cease work activities and be inside vehicles or buildings whenever the helicopter is dispersing MCH flakes within ¼ mile of their work site. Outfitted and private recreational paragliding will be prohibited during the day(s) helicopter activities are taking place. No other recreation event permits or activities will be authorized during helicopter flight periods.
10. During the late-June to early-July flake application period, all the restrictions put in place for the late-April to early-May application will be duplicated, public lift rides will be curtailed during the day of helicopter application, and temporary closures of the Bald Mountain Perimeter Trail will also be erected.
11. If possible news releases announcing road, trail, and/or lift closures details will be sent to local media outlets approximately 7 days in advance of the closures.
12. All trail and road closure signs will need to be removed after helicopter operations conclude.
13. Ground application of MCH pouches (bubble caps) to trees and maintenance of baited DFB traps will not require any road, trail, or lift closures.

NO ACTION

Under this alternative, there would be no application of the MCH pheromone on lands under BLM management. The USFS Ketchum Ranger District would possibly still complete applications on lands under their management. The BLM would continue to manage lands as identified in the Sun Valley MFP and by the Sun Valley Resort Master Plan and EIS.

ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED STUDY

Salvage and thinning treatments are possible alternatives to protect forest areas from increasing beetle populations. However, because this type of treatment could not be applied soon enough or at a broad enough scale to limit beetle population growth, and would also be cost prohibitive this alternative was eliminated as an alternative without further analysis.

CHAPTERS 3&4, AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

The no-action alternative reflects the current situation within the project area and will serve as the baseline for comparing the environmental effects of the analyzed alternatives.

During the analysis process, the interdisciplinary team considered several resources and supplemental authorities. The interdisciplinary team determined that the resources discussed below would be affected by the proposed action. The project file displays the complete list of resources and supplemental authorities that were considered and the reasons why resources not discussed below were not analyzed further.

OVERVIEW OF PROJECT AREA

The Bald Mountain ski area is located on land west and south of the junction of Warm Springs Creek and the Big Wood River. The ski area (and the other nearby areas proposed for pheromone treatment) is partially wooded, but also includes grasses and shrubs on cleared ski runs and south and west-facing slopes. Elevations vary from about 6,000 to 9,100 feet above sea level.

The forest stands within the project area are comprised primarily of Douglas-fir with sparse understory vegetation and with minor amounts of other tree species such as sub-alpine fir and lodge pole pine. The average Douglas-fir sites within the Rocky Mountains receive approximately 22 to 45 inches of precipitation annually; the project area receives an average of 20 inches of annual precipitation. Thus, the Douglas-fir stands under consideration are growing at the lower limits of their moisture requirements. As a result the majority of trees, particularly on BLM lands, are restricted to northern aspects where micro-climates can maintain moisture needed for this type of vegetation. The stands within the project area are typical single story stands that are 100 to 120 years old, have densities around 120 trees per acre (TPA), and the average tree within these stands has a diameter at breast height (DBH) of 14 inches. Under these conditions individual trees are competing heavily with each other for water, nutrients, and light. This competition slows growth and limits the trees capabilities to recover from droughts and to defend themselves from damaging insects. Historically, the competition between trees was minimized within the majority of the stands as wildfires and other natural processes kept tree densities lower and therefore freeing up water, light, and nutrients. Additionally, wildfires also reduced the amount of diseases like Douglas-fir dwarf mistletoe that is overabundant in areas within the project boundary and are impacting the health of the forest vegetation.

WILDLIFE INCLUDING SPECIAL STATUS AND AQUATIC SPECIES

Wildlife observed in the area include summering mule deer, Rocky Mountain elk, black bear, pileated woodpeckers, red-naped sapsuckers, great horned owls, red squirrels, etc. The Big Wood River and Warm Springs Creek support native redband rainbow trout (BLM type 2 sensitive) and mountain whitefish, Wood River sculpin (BLM type 2 sensitive), several other native non-game fish species, and non-native brook trout.

Proposed Action

Direct and Indirect - A Biological Assessment and Evaluation conducted by the USFS, Ketchum Ranger District Fisheries Biologist, Wildlife Biologist, and Botanist addressed the impacts this project would have on wildlife listed within the Endangered Species Act or given a special status by either the BLM or the Forest Service. Additionally, impacts to non-listed wildlife would be similar and can be extrapolated from this analysis. This document is part of the BLM project file and can be viewed by request at the Shoshone Field Office.

A summary of the impacts to wildlife from this Biological Assessment and Evaluation has been inserted below:

A. Endangered Species Act Listed and Candidate Species

Implementation of the proposed action will have **no effect** on Canada lynx, Yellow-billed cuckoo, Utah Valvata snail, Bliss Rapids snail, Banbury Springs limpet, or Snake River Physa snail. These determinations are based on the conclusions (discussed in Section VI and Appendix 2) that individuals of the species and their respective habitats, prey base, or reproductive success would not be impacted by the proposed project.

Implementation of the proposed action would have **No Direct Effect** on Ute ladies'-tresses orchid. This determination is based on surveys conducted during the 2003, 2004, 2005, 2008 and 2009 field seasons which located no individual plants or potential habitat for the species.

There is suggestive evidence that MCH could act as a pheromone in other invertebrate species. Therefore this proposed action **may have an indirect effect** on flowering plants in the area by acting as a repellent to plant pollinators. This would have the greatest effect on annual plants that rely on seed production as a means of reproduction and maintaining population viability.

B. Region Four Sensitive, Proposed Sensitive, and Forest Watch Species

Implementation of the proposed project will have **no impact** on the spotted bat, Townsend's big-eared bat, wolverine, fisher, white-headed woodpecker, Yellowstone cutthroat trout, mountain quail, sage grouse, pygmy rabbit, gray wolf or bighorn sheep. These determinations are based on the conclusion (discussed in Section VI) that individuals of the species and their respective

habitats, prey base, or reproductive success would not be negatively impacted by the proposed project.

The proposed project **may impact** individual northern goshawk, boreal owl, flammulated owl, three-toed woodpeckers, spotted frogs Wood River sculpin, northern leatherside, peregrine falcons, or bald eagles if they are within the area during proposed activities, or if prey species are affected by MCH ingestion, but would not likely contribute to a trend towards federal listing or a loss of viability for the species.

Implementation of the proposed project will have **no impact** on White Cloud milkvetch, bugleg goldenweed, Marsh's bluegrass, slender moonwort, Stanley thalspi mustard, northern sagewort, Challis milkvetch, prairie moonwort, least moonwort, Brewer's sedge, pale sedge, Mt. Shasta sedge, pointed draba, Yellowstone draba, spoon-leaved sundew, Blandow's helodium, Kellogg's bitterroot, Krukeberg's sword-fern, Jones' primrose, wedge-leaf saxifrage, nodding saxifrage, petalless campion. Beautiful bryum, Buxbaum's sedge, maritime sedge, park milkvetch, Idaho douglasia, Lemhi milkvetch, giant hellaborine orchid, and tall swamp onion. This determination is based on the proposed action indicating no ground disturbance from aerial application or installation of monitoring traps.

There is suggestive evidence that MCH could act as a pheromone in other invertebrate species. Therefore this proposed action **may have an indirect effect** on flowering plants in the area by acting as a repellent to plant pollinators. This would have the greatest effect to annual plants that rely on seed production as a mean of reproduction and maintaining population viability.

Cumulative - The primary federal activities that have impacted habitat on the Ketchum Ranger District and within the Shoshone Field Office are past and current livestock grazing, motorized use of roads, firewood gathering, past and current timber harvest, past and current mining activities, and developed and dispersed recreation. In addition to the impacts of planned activities habitats are also impacted by wildfires that have occurred directly adjacent to the area and at varying levels throughout the management areas. Within the project analysis area, the primary federal activity that occurs is the permitted Bald Mountain Ski Area and associated activities, including the recent development of a new gondola. Refer to the Bald Mountain Master Development Plan and EIS for more details of associated ski area activities, including vegetation management.

Since no effects to any threatened or endangered species are expected as a result of implementing the proposed project, no additional effects to any of these species is expected as a result of the project. Since potential effects to northern goshawk, boreal owl, and flammulated owl, northern three - toed woodpecker, spotted frogs, Wood River sculpin, northern leatherside, peregrine falcon, and bald eagle could occur with implementation of the proposed project, an increase in cumulative effects to the species could also occur.

No Action

Direct and Indirect- The implementation of no action will not have a direct effect on wildlife, but indirectly there is potential for changes to forest vegetation that currently provides habitat to

wildlife. Without action forest vegetation would remain vulnerable to attacks from an expanding Douglas-fir bark beetle population for as long as the population is at epidemic levels. As bark beetle populations increase within the area, the potential for bark beetles to overcome individual tree defenses and ultimately cause mortality will increase. Data from past outbreaks have shown that trees with physical damage (from fire or other sources), stressed by drought, defoliation, or disease are the most susceptible to beetle attack (Furniss and Orr, 1978). When these elements are present in addition to large bark beetle populations large amounts of mortality can be expected as seen after the Yellowstone fire. Data from this fire has shown areas with uninjured live/green trees have experienced up to 46% mortality when located nearby fire related beetle outbreaks (Lazarus, 2010). Furthermore, data collected in the fall of 2009 within areas adjacent to areas burned during the Castle Rock fire has shown that 47.2% of trees over 19 inches DBH and 40.9% of trees 11 to 19 inches DBH were heavily infested with Douglas-fir beetles (Lazarus, 2010). In considering this data it can be predicted that the area will incur heavy mortality with no action; however, the actual extent of mortality and subsequent habitat changes is also dependent on unknown variables such as weather that can vary year to year and throughout a stand. As a result, only broad predictions of the actual level of changes that may occur can be made. Changes to habitats within the project area can be predicted to include increased number of snags, reduced canopy cover, and increased understory vegetation. These changes could increase needed habitat for some species while at the same time reducing needed habitat for others and the overall impacted would depend on the extent and severity of bark beetle caused mortality.

Cumulative – Federal actions that may impact habitat within and adjacent the project area are addressed in the cumulative section for the proposed action. As the impacts to wildlife under the no action alternative are indirect and general in nature the cumulative impacts can only be assessed this way as well. The changes to habitats that have occurred as result of wildfires and potential changes as result of epidemic levels of bark beetles would reduce the amount of wildlife habitat that requires large areas of dense forest within the immediate area. However, as these forest conditions are abundant throughout the forested areas within the Shoshone field office and much of the Ketchum Ranger District the increase of open habitats with increased understory vegetation would offset the loss of the closed canopy habitat.

RECREATION RESOURCES

The project falls within a Special Recreation Management Area (SRMA). SRMAs are identified areas where a commitment has been made to emphasize recreation by managing for specific recreation opportunities and recreation setting characteristics on a sustained or enhanced, long-term basis. Developed skiing/snowboarding and hiking and mountain biking are the primary activities that occurs within the project area. The project area is managed under a joint Special Use Permit (SUP) between the BLM Shoshone Field Office and Forest Service Ketchum Ranger District.

There are approximately 28 miles of native surface hiking and biking trails that are accessible from River Run, Warm Springs, and Cold Springs within and adjacent to the Bald Mountain SUP area. Approximately one mile of the paved Wood River Trail (aka “Bike Path”), managed by the Blaine County Recreation District parallels the east side of the Bald Mountain SUP area.

Regular summer lift operations typically begin the weekend before the 4th of July holiday. The Roundhouse Express gondola and Christmas chairlift are expected to operate for sightseeing and Bald Mountain access during the summer of 2010 and beyond. Occasional operation of the Roundhouse Express gondola can be expected between the end of ski season and 4th of July weekend, to accommodate special events at the Roundhouse Restaurant.

Approximately 200 to 500 people take a summer tandem instructional paragliding flight off of Bald Mountain from an authorized outfitter annually. Private, recreational paragliding also takes place off of Bald Mountain under the auspices of the Sun Valley Paragliding Club.

The Forest Service, with Sun Valley Company cooperation, authorizes two summer uphill climbing events that attract several hundred participants annually.

Proposed Action

Direct and Indirect – Since the proposed action closes the project area to human entry during dispersal individuals would have to find an alternative location to hike or mountain bike for a day or two. Also the trail system within the project area may not be usable due to wet and muddy trail conditions therefore impacts to hikers and mountain bikers would be insignificant.

Cumulative – It is not anticipated that other closures to recreation opportunities (outside of normal yearly closures) within or adjacent to the project area would occur as a result of foreseeable actions. However, during times that the recreation opportunities are limited within the project area it is anticipated that other recreation areas within the valley would receive increased use.

No Action

Direct and Indirect- No direct impacts are anticipated as a result of the no action alternative, the same level of recreation opportunities would continue to be provided. However, as discussed within the above wildlife resource impacts, there is a chance for indirect impacts to occur from potential changes to the vegetation within the project area to. These changes to vegetation could lead to increased hazards from snags along trails and inadvertently change the accessibility of areas for skiing.

Cumulative – There are no foreseeable management actions that would change the use of other areas that are currently providing the same types of recreation opportunities.

VISUAL RESOURCES

This area lies within a Visual Resource Management (VRM) Class III area. The objective of this class is to minimize visual impacts to the extent practical. Management activities may be seen, but should not attract the attention of the casual observer. The Bald Mountain ski area is visible from scenic highway 75 and is an icon of the Ketchum and Sun Valley communities. The forest vegetation is needed to sustain the visual resource of the viewshed, and is an important part of Bald Mountain's recognition.

Proposed Action

Direct and Indirect- With the successful implementation of the proposed action there would not be any changes to the project area's visual resources. Success of the project would help maintain the line, form, color and texture of the project area.

Cumulative- As this treatment would not change any of the visual characteristics of the project area it would not add to any impacts of the current or foreseeable management activities.

No Action

Direct and Indirect - No direct impacts are anticipated as a result of the no action alternative. However, like other resources discussed, because there is the potential for change in vegetation as an indirect result of the no action alternative visual resources within the project area may experience changes. If bark beetles continue to expand and cause levels of mortality that have been seen in other areas, then the viewshed would be altered dramatically. This alteration would mainly come from the change in color of trees, as there would be a large amount of red where there was previously green. The trees would turn from orange to gray and be less visible within 3 to 4 years of initial mortality. Eventually, the majority of the dead trees would fall, changing the line, form, color and texture of the viewshed. However, since the progression of beetle kills is a naturally occurring process, it would not affect the "characteristic environment" as it pertains to the Agency's application of VRM practices.

Cumulative- Bark beetle and wildfire caused mortality has already occurred within the project area and the adjacent Castle Rock fire area that has similar colors and textures and would be a possible result of the no action alternative. Additionally, previous bark beetle mortality further to the northwest along Highway 75 to Galena Summit already has had mortality and also exhibit these characteristics. Like these areas the change within the project area will be identifiable at first and then blend in with areas that have already had this type of mortality occur.

TRIBES, INDIVIDUALS, ORGANIZATIONS, OR AGENCIES CONSULTED

On December 4, 2009, the Sawtooth National Forest circulated a scoping notice summarizing this proposal and soliciting input on associated environmental issues and concerns. The notice was mailed to 115 individuals, organizations, or agencies. The 30-day scoping period closed January 8, 2010. Two local tribal nations also received government to government notice of the proposal. This project proposal was also listed in the 01/01/2010 to 03/31/2010 Sawtooth National Forest Quarterly Schedule of Proposed Actions and was made available on the BLM website for a minimum of 30 days beginning January 4, 2010. Comment letters were received from one agency, one organization, and nine individuals and are available for review in the project file at. The comments from these letters were addressed in Chapter 1.

LIST OF PREPARERS

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